

USEPA/OECA/OC  
State and Tribal Assistance Grant (STAG) 2000-2001  
Iowa: Food Processing Initiative  
Proposal  
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## I. Project Information

**State and Department:** Iowa Department of Natural Resources  
**Title of Project:** Food Processing Inspections Project  
**Focus Area:** Compliance Assistance Outcome Measurement  
**Total Funds Requested from EPA:** \$102,050  
**Total Project Cost** (including state cash and in-kind contributions): \$102,050  
**Contact Person:** Jeff Fiagle  
P<sup>2</sup> Regulatory Integration Coordinator  
Iowa DNR  
502 E. 9<sup>th</sup> Street  
Des Moines, IA 50319  
**Preferred Assistance Agreement:** Grant

## II. Summary

### Problem being addressed

The Iowa Department of Natural Resources is requesting a grant of \$102,050 to develop a method of working with food processors to reduce their environmental footprint on our state. This method could then be replicated to other sectors.

Iowa is centrally located in the food-belt of the United States. Food is produced in our state for consumption worldwide. Although the ability to produce, process and manufacture food is a great boon to our economy it is also can and does have a significant impact on our environment.

According to the Official Iowa Manufacturers Directory 2001 published by Harris InfoSource there are a minimum of 756 Food Processing Manufacturing Establishments in our state. This number represents eleven percent of Iowa's manufacturing establishments. According to the U.S. Department of Commerce, Bureau of Economic Analysis the food processing sector, defined by the category "Food and kindred products" and by standard industrial codes (SIC) 2000-2099, contributed \$1,779,431,000 to Iowa's economy in 1998.

The Department has been working, in the last three years, to integrate pollution prevention (P<sup>2</sup>) strategies into regulatory activities. The Department feels that P<sup>2</sup> is another tool in the enforcement toolbox that can assist businesses in meeting environmental compliance limits and potentially going beyond those limits. Department and POTW inspectors attending training sessions expressed through evaluations that the food processing industry is a sector priority not only for their region of the state, or city, but the state as a whole.

The food processing industry can place incredible demands on wastewater systems. The sheer volume of wastewater produced from a food processor can overload some municipal wastewater treatment plants. Food processors send high levels of pollutants including, but not limited to, Biochemical Oxygen Demands (BOD), total suspended solids (TSS), and ammonia nitrogen, to municipal wastewater treatment plants, making it difficult for these treatment plants to stay within their specific compliance limits. The industry also contributes high levels of particulate matter (PM and PM<sup>10</sup>), NO<sub>x</sub>, SO<sub>2</sub>, volatile organic compounds (VOCs), and carbon monoxide. Two counties in Iowa are close to reaching ozone non-attainment levels of which NO<sub>x</sub> and SO<sub>2</sub> are precursors. Particulate matter is also a concern in the state as well.

According to EPA's Toxics Reduction Inventory (TRI) database for the year 1998, 142 food processors, in Iowa, reported 9,132,321 pounds of TRI emissions. These emissions to air, water, and land include:

|         |          |          |
|---------|----------|----------|
| Ammonia | Alachlor | Atrazine |
| Benzene | Chlorine | Chromium |

|                   |                   |           |
|-------------------|-------------------|-----------|
| Copper            | Hydrochloric acid | Manganese |
| Nitrate compounds | Zinc compounds    |           |

The food processing sector also produces a huge volume of organics in the solid waste stream. Through previous initiatives the Department has facilitated the development of an infrastructure to assist in the removal of organics from the solid waste stream. Although this infrastructure exists, it is not being used to the full extent possible by the food processing industry.

These air, wastewater and solid waste problems can be caused by the fact that, in many cases, businesses are not operating as efficiently as they could be. This inefficiency results in industry inefficiencies resulting in compliance problems and wastes. Food processors are not always aware of their environmental responsibilities. Food processors also may not be aware of P<sup>2</sup> strategies or the benefits that implementing an EMS can bring to help them reduce the waste they generate thus increasing their efficiencies. Outreach to industry that brings awareness of compliance issues, P<sup>2</sup> strategies, and EMSs can help a business manage their compliance obligations and potentially go beyond compliance limits, and reduce their liabilities.

This project seeks to assist in bringing the food processing sector into compliance with environmental regulations and provide them information through workshops/conference, one-on-one contact through compliance inspections, and follow-up contact with technical assistance. These opportunities will assist the food processing sector in meeting compliance limits and going beyond compliance limits through P<sup>2</sup> strategies and EMSs.

As we will be gathering data throughout the term of the project, this project will also identify compliance data needs of the Department.

The Department recently attended a National Performance Track Meeting regarding the Meat Processing Sector Initiative. As the meat processing sector is a sub-sector of the food processing sector, this project is consistent with and supports EPA's national priorities.

### **Project goal**

Overall Goal: To improve environmental compliance rates in the food processing sector by incorporating compliance, P<sup>2</sup>, and EMS information/training and resources as well as providing increased technical assistance opportunities to this sector.

### **Project components**

Once a contractor has been selected, the project will start with a *Stakeholder meeting* of internal and external stakeholders to further refine the project's scope and the needs and wants of the Food Processing Industry. A *Baseline Survey* will be distributed to the industry to establish a baseline of the industry's awareness of compliance issues, P<sup>2</sup> strategies and EMSs. *Compliance Training for Inspectors and Technical Assistance Providers* will provide the latest information on compliance, P<sup>2</sup> strategies, and EMSs to better assist the industry. A follow-up survey will be conducted at the end of this training. A multi-day workshop/conference *Compliance Training for the Food Processing Industry* will provide information to the industry regarding complying with regulations in the industry, P<sup>2</sup> strategies to assist in achieving/maintaining/going beyond compliance and EMSs. A follow-up survey will be conducted at the end of this training. An *Outreach Period* will follow to allow inspectors and technical assistance to work with the industry. Inspectors during inspections will distribute tool kits (including fact sheets and information and resources on best management practices, P<sup>2</sup> strategies, and EMSs). The progress of businesses that have been referred to technical assistance by inspectors will be measured. During the *Outreach Period*, *Food Processing forums* will be conducted. These forums include Business-to-Business Mentoring Forums and On-Site Training for Inspectors and Technical Assistance Providers and will be provided 2-4 times for each group. These forums will further industry's awareness and assist inspectors and technical assistance in helping the industry. A *Final Survey* will be distributed to this sector to measure changes in their awareness of compliance issues, P<sup>2</sup> and EMSs. Information gathered to be distributed to other states and useful for the development of strategies targeting other sectors.

### **How will the project components address the problem & attain the goals:**

The *Stakeholder Meeting* will bring together a diverse group of stakeholders including Department regulatory and technical assistance staff (Waste Reduction Assistance Program (WRAP) and Energy Bureau), regulatory (POTWs, EPA Region 7 and USDA inspectors, etc.) and technical assistance entities (Iowa Waste Reduction Center, SBDCs, etc.) based outside of the Department, and business and industry (Iowa Association of Business & Industry, members of the Food Processing Industry). This meeting will help define the problem(s) such as the industry's lack of awareness of compliance issues, what they want and need to know regarding P<sup>2</sup> and EMSs. This will assist the Department to determine the best avenues to deliver those messages to the industry.

The *Baseline Survey* will further define the problems with a larger "audience," and document a baseline with which we can measure project results.

*Compliance Training for Inspectors and Technical Assistance Providers* will provide an update on compliance issues for the food processing industry to these groups. It will also provide them with information and resources on P<sup>2</sup> strategies and EMSs to better assist the industry.

The *Compliance Training for the Food Processing Industry* will provide a multi-day venue, providing the industry with compliance information and resources they need. They will also receive information and resources regarding P<sup>2</sup> strategies and EMSs. The combination of information and resources will help them reach compliance limits and potentially go beyond these limits.

The *Outreach Period* will give inspectors and technical assistance staff time to outreach to the Food Processing Industry on an individual basis. Inspectors will distribute tool kits to businesses during inspections and may provide assistance or note opportunities and refer businesses to technical assistance for further help with compliance issues, P<sup>2</sup> and EMSs.

*Food Processing Forums* consisting of *Business-to-Business Mentoring* and *On-site Training for Inspectors and Technical Assistance* will provide continuing education and resources for these groups. The *Business-to-Business Mentoring Forums* will help to raise the industry's awareness of these issues and provide them solutions through examples other businesses have instituted. The *On-site Training Forums* will provide inspectors with additional tools to assist the industry in reaching and going beyond compliance levels.

The *Final Survey* will document changes in awareness since the beginning of the project.

## **II. Work Plan**

### **Proposed activities – (list and describe activities and how they relate to the evaluation elements)**

*Stakeholder meeting:* An outside contractor will facilitate a meeting with internal (technical assistance and regulatory compliance staff) and external stakeholders (Iowa Association of Business and Industry, Iowa Department of Economic Development, Iowa Waste Reduction Center, POTW inspectors, regional EPA inspectors, etc.) and food processing industry representatives. This meeting will be conducted in advance of any training to fine tune the specifics of the project, and determine the wants and the needs of the stakeholders as well as determine the food processing sector's awareness of compliance issues, P<sup>2</sup> strategies and environmental management systems (EMS).

*Baseline survey of food processing industry:* With contractual assistance a survey will be distributed to this sector to assess the industry's level of knowledge regarding compliance issues, P<sup>2</sup> strategies, and environmental management systems (EMS).

*Compliance food processing training for inspectors and technical assistance providers:* An outside contractor will facilitate and conduct compliance training for inspectors (Department, regional EPA, POTW and other inspectors) and technical assistance providers (Waste Reduction Assistance Program, DNR's Energy Bureau, Iowa Waste Reduction Center and others outside of the Department). Input from the *Stakeholders Meeting* will help shape the agenda for this training. General topics will include compliance information, P<sup>2</sup> strategies and EMS information. Training methods will incorporate lecture, role playing as well as hands-on training. The information these groups will gain will reinforce information that the industry will receive in the industry workshop/conference. A follow-up survey will be conducted at the end of this training.

Attendees will review drafts of a Food Processing Sector Folder (containing fact sheets and informational resources) and a Food Industry P<sup>2</sup> Checklist. Inspectors, during inspections, will distribute the sector folder and use the checklist to assist the inspector in determining if P<sup>2</sup> opportunities exist.

*Compliance training for the food processing industry:* An outside contractor will facilitate and help conduct a multi-day workshop/conference for food processing industry. Specific topics and format will be determined by the input from the industry at the *Stakeholder Meeting*. General topics will include compliance issues including how to improve compliance, P<sup>2</sup> strategies and EMSs. A follow-up survey will be conducted at the end of this training.

*Outreach period:* An *Outreach Period* will take place to allow time for inspectors and technical assistance to outreach to the food processing industry. Inspectors will perform compliance inspections of food processors making referrals to technical assistance if a specific business needs compliance assistance or if P<sup>2</sup> opportunities exist. Food processing sector folders will be distributed and P<sup>2</sup> checklists will be used to assist inspectors with the food processing industry. The Department has had prior experience developing informational fact sheets for businesses and P<sup>2</sup> checklists for inspector's use (see attached documents: fact sheets – MFS.pdf, checklists – chklst3A.doc and p2chklt.doc).

When an inspector makes a technical assistance referral, it will be tracked by the P<sup>2</sup> Regulatory Integration Coordinator and passed onto the appropriate technical assistance provider. The technical assistance provider will follow-up with the referred business. The progress of businesses that have been referred to technical assistance will be measured throughout this time period.

*Food processing forums:* Two types of forums will be conducted to provide additional training opportunities on various issues specific to the food processing industry throughout the *Outreach Period*. These forums will be facilitated and/or conducted by an outside contractor.

- *Business-to-Business Mentoring Forums* would be strategically located around the state and would focus on specific compliance issues, P<sup>2</sup> technologies and EMSs. Solutions to compliance issues and information on adopting particular P<sup>2</sup> strategies or an EMS would be presented by businesses to businesses.
- *Onsite Training for Inspectors and Technical Assistance Providers* would provide these stakeholders to view specific compliance solutions, P<sup>2</sup> strategies or EMSs in practice. The information gained through this type of training will help these stakeholders better serve their specific clients.

*Final Survey:* With contractual assistance, a final survey will be distributed to this sector to measure changes in awareness rates regarding compliance issues, P<sup>2</sup> and EMSs. The information gained will assist in measuring the results of the project.

### **Outcome Measures**

Changes in awareness or understanding of regulations or compliance

- Number of food processors, inspectors, and technical assistance providers whose understanding of environmental compliance issues and regulations, P<sup>2</sup> strategies, and EMSs improved as measured by pre- and post-tests at the beginning and end of the project as well as at workshops, conferences, forums and meetings.
- Number of food processors whose understanding of environmental compliance issues and regulations, P<sup>2</sup> strategies, and EMSs has improved as a result of the compliance and/or technical assistance received, as indicated by verbal or written responses to surveys or other tracking mechanisms.

Behavioral changes (regulatory and non-regulatory environmental management changes):

- Number of food processors that have taken at least one action to comply with environmental regulations (i.e., obtaining permits due to increased awareness) as a result of workshops, forums or the compliance and/or technical assistance received.
- Number of food processors adopting P<sup>2</sup> opportunities or best management practices as a result of workshops, forums or compliance and/or technical assistance received.

- Number of food processors adopting EMSs as a result of workshops, forums or compliance and/or technical assistance received.
- Number of food processors demonstrating improved compliance rates and going beyond compliance rates, measured through direct observation.

Environmental or human health improvements:

- Number of facilities that reduce water use, energy use, human exposure to toxics, emissions or other pollutants.
- Amount of water, energy, emissions, pollutants, and/or risk reduced.

### **Sharing results**

Results of the project will be reported periodically throughout the term of the project. The information in the reports will represent a compilation of industry data, continuing to support client confidentiality of the technical assistance providers involved in this project. The project results will be posted on the Department's website. Results will also be reported on the Region 7 P<sup>2</sup> Roundtable listserver, the P<sup>2</sup> Regional Information Center (P<sup>2</sup>RIC), the National Pollution Prevention Roundtable's (NPPR) P<sup>2</sup>Tech and P<sup>2</sup>Integrate listservers, presentations at a NPPR Conferences, as well as the Multi-State Workgroup listserver, website, and presentations at this group's conferences.

### **III. Project Milestones**

|  |                   |
|--|-------------------|
| Begin RFP development for contractor             | June 1, 2001      |
| Select a contractor                              | August 1, 2001    |
| Stakeholder meeting                              | October 1, 2001   |
| Baseline survey                                  | November 1, 2001  |
| Training for inspectors and technical assistance | February 1, 2002  |
| Training for food processors                     | March 1, 2002     |
| Outreach period begins                           | April 1, 2002     |
| Food processing forums begin                     | August 1, 2002    |
| Final Survey                                     | December 31, 2003 |
| Final Report                                     | March 31, 2004    |

### **IV. Project Costs**

*Stakeholder meeting:*

|   |            |
|---|------------|
| Contract for developing agenda and facilitating meeting | 10,000     |
| Securing meeting site                                   | <u>250</u> |
| Subtotal  | 10,250     |

*Baseline, follow-up and final surveys of food processing industry:*

|   |               |
|---|---------------|
| Contract developing and conducting survey | <u>30,000</u> |
| Subtotal                                  | 30,000        |

*Compliance training for the food processing industry:*

|  |            |
|--|------------|
| Contract for developing agenda and facilitating training | 12,000     |
| Securing meeting site                                    | 6,000      |
| Stipend for speakers                                     | 4,000      |
| Postage for invitations and reminders                    | 350        |
| Printing of materials                                    | <u>300</u> |
| Subtotal   | 22,650     |

*Compliance food processing training for inspectors and technical assistance providers:*

|   |           |
|---|-----------|
| Contract for developing agendas and conducting training | 12,000    |
| Securing meeting sites                                  | 200       |
| Printing of materials                                   | 125       |
| Postage   | <u>25</u> |
| Subtotal  | 12,350    |

*Food Processing Sector Folder and Food Industry P<sup>2</sup> Checklist.*

|          |              |
|----------|--------------|
| Printing | <u>1,800</u> |
| Subtotal | 1,800        |

*Food processing forums:*

Contract for developing agenda and facilitating forums  
Securing meeting sites

24,000

1,000

Subtotal 25,000

**GRANT TOTAL \$102,050**